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Proposed type genera for higher taxa within the Sub-Phylum Ciliophora (Phylum Protozoa)

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Acting within the spirit of the *Copenhagen Decisions on Zoological Nomenclature* (Hemming, 1953) and appreciating the need to stabilize the higher zoological taxa by fixation of type genera, the present paper considers the problem of selecting such types in a subphylum of " lower organisms ", the ciliated protozoa.

2. Before types can be designated, or even suggested, another nomenclatural problem should be resolved as satisfactorily as possible : clarification of the standing of names of the taxa themselves in the Order/Class-Group within the subphylum Ciliophora. Classificational schemes are also involved to the extent that various groups have been shifted in their rank and relationship to each other by different authors. Strictly nomenclatural aspects of ciliate systematics, however, are for the most part unaffected by the taxonomic position of the various groups, if proposed changes in rank have not been too drastic.

3. Various classificational schemes are currently in use for the ciliates. One very recent revision has just been published (Corliss, 1956, 1957), based principally upon proposals made by Fauré-Fremiet (1950). Several major differences exist between conventional schemes and the latest rearrangement. The suggested alterations are based upon analyses and interpretations of new information or of data considered more reliable (i.e., more fundamental in nature) from a phylogenetic point of view than those generally employed.

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4. The propositions of the *Copenhagen Decisions* related to nomenclatural procedures for higher taxa have been applied to group names within the Ciliophora (Corliss, 1957). This has revealed that most of the existing confusion stems from past failures to recognize priority at the higher taxonomic levels. Plenary Powers of the International Commission on Zoological Nomenclature must be invoked to resolve cases of homonomy and to preserve several time-honored names.

5. A more detailed proposal of type genera for the higher ciliate groups will be made to the International Commission on Zoological Nomenclature in proper form at a later date ; but the following list of suggested names is essentially a condensation of the information to be included in such a petition. Thus the present paper is not an attempt to offer formal designation of types. Shifting various systematic groups to higher or lower ranks in the classificational scheme in general need not affect the relationship of a taxon to its type genus ; thus a worthwhile degree of stability can be achieved by suggesting type genera, even though the scheme adopted here as a framework may undergo subsequent change. The thirty taxonomic units recognised below involve twenty-one different genera of ciliates as types. The genera chosen are generally quite central taxonomically to the collection of subunits involved. In addition the selected genera, with two exceptions, are also types of representative families within the orders or suborders concerned.

6. For conciseness the following plan of presentation is used below : the name of a given taxon includes only the (original) author, not the date ; this information is separated from the full name of the type genus by a colon. Names of authors are abbreviated following their first usage.

7. Subphylum Ciliophora Doflein : *Paramecium* O. F. Müller, 1773 ; same type genus for the single class Ciliata Perty, and for the subclass Holotricha Stein. Order Gymnostomatida Bütschli : *Holophrya* Ehrenberg, 1831 ; suborder Rhabdophorina Fauré-Fremiet : same as for the order ; suborder Cyrtophorina F-F : *Nassula* Ehrbg., 1833. Order Suctorida Claparède & Lachmann : *Acineta* Ehrbg., 1833. Order Chonotrichida Wallengren : *Spirochona* Stein, 1852. Order Trichostomatida Büt. : *Colpoda* O.F.M., 1773. Order Hymenostomatida Delage & Hérouard : *Paramecium* O.F.M., 1773 ; suborder Tetrahymenina F-F : *Tetrahymena* Furgason, 1940 ; suborder Peniculina F-F : same as for the order ; suborder Pleuronematina F-F : *Pleuronema* Dujardin, 1841. Order Astomatida Schewiakoff : *Anoplophrya* Stein, 1860. Order Apostomatida Chatton & Lwoff : *Foettingeria* Caullery & Mesnil, 1903. Order Thigmotrichida Ch. & Lw. : *Hemispeira* Fabre-Domergue, 1888 ; suborder Arhynchodina Corliss : same as for the order ; suborder Rhynchodina Ch. & Lw. : *Ancistrocoma* Ch. & Lw., 1926. Order Peritrichida Stein : *Vorticella* Linnaeus, 1766 ; suborder Sessilina Kahl : *Urceolaria* Lamarck, 1801 ; suborder Mobilina Kahl : same as for the order.

8. Subclass Spirotricha Büt. : *Euplotes* Ehrbg., 1831. Order Heterotrichida Stein : *Condylostoma* Bory, 1826 ; suborder Heterotrichina Cor. : same as for the order ; suborder Licnophorina Cor. : *Licnophora* Claparède, 1867. Order Oligotrichida Büt. : *Halteria* Duj., 1840. Order Tintinnida Kofoid & Campbell : *Tintinnus* Schrank, 1803. Order Entodiniomorphida Reichenow : *Entodinium* Stein, 1858. Order Odontostomatida Sawaya [replacing Ctenostomatida Kahl, preoccupied] : *Saprodinium* Lauterborn, 1908. Order Hypotrichida Stein : *Euplotes* Ehrbg., 1831.

9. Rather detailed discussion of certain choices of generic names used above is warranted but is beyond the scope of the present abbreviated report. It may be interesting to note in passing that no genus of ciliates was listed in Linnaeus' 10th edition of the *Systema Naturae*, although Hill (1752) had published the name " *Paramecium* " six years earlier. Rarely have types been designated for any of the ciliate taxa ; the relationship of such cases to the proposals made above also will be considered in a fuller paper to be published elsewhere at an appropriate later date.